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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/787,312

02/27/2004

Evgeni Gorovoy

8989-020

4353

1059

7590

01/19/2007

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EXAMINER

TAKAOKA, DEAN O

ART UNIT

PAPER NUMBER

2817

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/19/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/787,312

Applicant(s)

GOROVOY ET AL.

Examiner

Dean O. Takaoka

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/14/04, 7/8/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 6, 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5, 6, 10 and 11 recites the limitation "rectangular, cylindrical, triangular" in the claims. There is insufficient antecedent basis for this limitation in the claim.

The claims above appear to be drawn to a Markush group where the word "and" should be used to place the grouping in proper form (e.g. rectangular, cylindrical[,] and triangular), thus there is insufficient antecedent basis for this limitation in the claim and the claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 6 and 8 – 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hettlage et al. (US 4,967,170).

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Claim 1.

Hettlage (Figs. 2 and 3) shows a microwave switch housing assembly for operation in a selected frequency range, comprising: a housing (1); a rotor (2) rotatably mounted within said housing; at least one waveguide passage in said rotor; said housing having ports formed therein (A-D) so that in a first position of said rotor, said waveguide passage (3-5) connects said ports and in a second position of said rotor, said waveguide passage is unconnected to said ports (Fig. 2); a power absorbing element located within one of said housing and said rotor (10-13 or 14-17) such that said power absorbing element is positioned adjacent to one end of said waveguide passage when said rotor is in said second position; said power absorbing element being capable of absorbing electromagnetic energy in said frequency range, so as to reduce the tendency of said waveguide passage to act as a volume resonator when said rotor is in said second position (where 10-13 or 14-17 are slits which are chokes and attenuate crosstalk – c3, lns 40,41; where the slits are air cavities thus inherently where air comprises an absorbing material absorbing unwanted crosstalk signals).

Claim 2.

Wherein said housing has an interior opening to accommodate said rotor, said opening having a cylindrical surface (circular shape – abstract with respect to passages 4,5), said cylindrical surface having a channel therein adapted to house said power absorbing element.

Claims 3 and 8.

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Wherein said waveguide passage has an end openings having a selected height and width, and said channel has substantially the same height and width as said selected height and width (where the term substantially is broad, thus where the channels of Hettlage has substantially the same height and width).

Claim 4.

Wherein said waveguide passage has two end openings, and wherein said power absorbing material is positioned in said housing adjacent to at least one of said end openings when said rotor is in said second position (where 14-17 are located in the housing and adjacent output openings).

Claims 5 and 10.

Wherein said channel has a cross-section selected from the group consisting of: rectangular, cylindrical, triangular (in so far as can be understood where the channels are circular).

Claims 6 and 11.

Wherein said power absorbing element has a cross-section selected from the group consisting of: rectangular, cylindrical, triangular (in so far as can be understood where the slits are rectangular).

Claim 9.

Wherein said waveguide passage has two end openings, and wherein said power absorbing material is positioned in said housing adjacent to at least one of said end openings when said rotor is in said second position (any two end openings A-D where the chokes are adjacent to each opening).

Claims 1 – 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Mayer (US 6,218,912).

Claim 1.

Mayer (Fig. 3) shows a microwave switch housing assembly for operation in a selected frequency range, comprising: a housing (1); a rotor (2) rotatably mounted within said housing; at least one waveguide passage in said rotor; said housing having ports formed therein (11-14) so that in a first position of said rotor, said waveguide passage (7-9) connects said ports and in a second position of said rotor, said waveguide passage is unconnected to said ports (Fig. 3); a power absorbing element located within one of said housing and said rotor (4 or 5) such that said power absorbing element is positioned adjacent to one end of said waveguide passage when said rotor is in said second position; said power absorbing element being capable of absorbing electromagnetic energy in said frequency range, so as to reduce the tendency of said waveguide passage to act as a volume resonator when said rotor is in said second position (where 4, 5 are grooves which improve electrical properties - c2, lns 24-27 and are analogous to the slits of Hettlage discussed above).

Claim 2.

Wherein said housing has an interior opening to accommodate said rotor, said opening having a cylindrical surface, said cylindrical surface having a channel therein adapted to house said power absorbing element (where the term cylinder does not preclude a rectangular shape shown in Fig. 2 of Mayer).

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Claims 3 and 8.

Wherein said waveguide passage has an end opening having a selected height and width, and said channel has substantially the same height and width as said selected height and width (where the term substantially is broad, thus where the channels of Mayer has substantially the same height and width and shown in Fig. 2).

Claim 4.

Wherein said waveguide passage has two end openings, and wherein said power absorbing material is positioned in said housing adjacent to at least one of said end openings when said rotor is in said second position (where power absorbers all shown as 5 are located in the housing and adjacent output openings).

Claims 5 and 10.

Wherein said channel has a cross-section selected from the group consisting of: rectangular, cylindrical, triangular (in so far as can be understood where the channels are rectangular).

Claims 6 and 11.

Wherein said power absorbing element has a cross-section selected from the group consisting of: rectangular, cylindrical, triangular (in so far as can be understood where the slits are rectangular).

Claim 7.

Wherein said rotor has a plurality of curved outer surfaces, at least one of said curved outer surfaces having a channel therein adapted to house said power absorbing element (Fig. 3; where channel 5 connects to the curved outer surface of the housing).

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Claim 9.

Wherein said waveguide passage has two end openings, and wherein said power absorbing material is positioned in said housing adjacent to at least one of said end openings when said rotor is in said second position (any two end openings 11-14 where the chokes are adjacent to each opening).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spinner (GB 2 250 140A), prior art cited by Applicants IDS dated July 8, 2005 in view of Hettlage or Mayer.

Claim 1.

Spinner (Figs. 4-6) shows a microwave switch housing assembly for operation in a selected frequency range, comprising: a housing (1); a rotor (4) rotatably mounted within said housing; at least one waveguide passage in said rotor; said housing having ports formed therein (A-D); a power absorbing element located within one of said housing and said rotor (11-14 or 41, 42) such that said power absorbing element is positioned adjacent to one end of said waveguide passage when said rotor is in said second position; said power absorbing element being capable of absorbing

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electromagnetic energy in said frequency range, so as to reduce the tendency of said waveguide passage to act as a volume resonator when said rotor is in said second position (where 11-14 or 41,42 are slits or chokes which improve electrical properties – c3, paragraph 3; and are analogous to the slits of Hettlage discussed above) but does not show when the rotor is rotated in a first position of said rotor, said waveguide passage connects said ports and in a second position of said rotor, said waveguide passage is unconnected to said ports.

Both Hettlage and Mayer shows a nearly identical waveguide switch comprising three channels so that in a first position of said rotor, said waveguide passage connects said ports and in a second position of said rotor, said waveguide passage is unconnected to said ports.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the device disclosed by Spinner with the third channel disclosed by either Hettlage or Mayer. Such a modification would have been obvious and realized the advantageous benefit of providing an additional straight thru connection thus suggesting the obviousness of the modification.

Claim 2.

Wherein said housing has an interior opening to accommodate said rotor, said opening having a cylindrical surface, said cylindrical surface having a channel therein adapted to house said power absorbing element (where the term cylinder does not preclude a rectangular shape shown in Fig. 1 of Spinner).

Claims 3 and 8.

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Wherein said waveguide passage has an end opening having a selected height and width, and said channel has substantially the same height and width as said selected height and width (where the term substantially is broad, thus where the channels of Spinner has substantially the same height and width and shown in Fig. 1).

Claim 4.

Wherein said waveguide passage has two end openings, and wherein said power absorbing material is positioned in said housing adjacent to at least one of said end openings when said rotor is in said second position (where power absorbers 11-14 are located in the housing and adjacent output openings).

Claims 5 and 10.

Wherein said channel has a cross-section selected from the group consisting of: rectangular, cylindrical, triangular (in so far as can be understood where the channels are rectangular).

Claims 6 and 11.

Wherein said power absorbing element has a cross-section selected from the group consisting of: rectangular, cylindrical, triangular (in so far as can be understood where Spinner shows rectangular, circular and cone shaped cavities).

Claim 7.

Wherein said rotor has a plurality of curved outer surfaces, at least one of said curved outer surfaces having a channel therein adapted to house said power absorbing element (Figs. 4 - 6; where the slits all connect to the curved outer surface of the housing).

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Claim 9.

Wherein said waveguide passage has two end openings, and wherein said power absorbing material is positioned in said housing adjacent to at least one of said end openings when said rotor is in said second position (any two end openings A-D where the chokes are adjacent to each opening).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dean O. Takaoka whose telephone number is (571) 272-1772. The examiner can normally be reached on 8:30a - 5:00p Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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January 12, 2007